Using a student loan calculator

Students use a student loan calculator to calculate monthly loan payments and how much they can save on total loan costs by paying a little extra each month.

Learning goals

Big idea

The total amount you pay for a student loan depends on three things: the amount you borrow, the interest rate, and how many years you take to pay back the loan.

Essential questions

- How does a student loan get repaid?
- What can you do to reduce the total amount you have to pay back for a student loan?

Objectives

- Use loan data to calculate the monthly payment and total amount paid for a student loan
- Understand how paying more than the minimum payments can reduce the total cost of the loan

What students will do

- Use an online calculator to determine how much the monthly payments for federal student loans would be for a recent graduate described in a scenario.
- Explore how paying extra on a loan can reduce the loan's total cost.
- Reflect on what they learned about repaying student loans.

KEY INFORMATION

Building block:

Financial knowledge and decision-making skills

Grade level: High school (9–12)

Age range: 13–19

Topic: Spend (Paying for college), Borrow (Getting loans)

School subject: CTE (Career and technical education), Math

Teaching strategy: Cooperative learning, Direct instruction, Simulation

Bloom's Taxonomy level: Understand, Apply

Activity duration: 45–60 minutes

National Standards for Personal Financial Education, 2021
Earning income: 8-3, 12-3
Managing credit: 8-1, 8-3, 8-6, 12-4, 12-5, 12-10

These standards are cumulative, and topics are not repeated in each grade level. This activity may include information students need to understand before exploring this topic in more detail.

Preparing for this activity

- ☐ Print copies of all student materials, or prepare for students to access them electronically.
- ☐ While it's not necessary, completing the "Reading about federal financial aid" activity or the "Learning how federal financial aid can help you pay for higher education" activity before this one may make it more meaningful.
- ☐ Become familiar with the U.S. Department of Education office of Federal Student Aid's Loan Simulator at https://studentaid.gov/loan-simulator/.
  - Note that this calculator focuses on federal student loans.
- ☐ Obtain computers or tablets with Internet access so students can use the Loan Simulator.

NOTE

Please remember to consider your students' accommodations and special needs to ensure that all students are able to participate in a meaningful way.

What you'll need

THIS TEACHER GUIDE

- **Using a student loan calculator** (guide)
  cfpb_building_block_activities_using-student-loan-calculator_guide.pdf

STUDENT MATERIALS

- **Using a student loan calculator** (worksheet)
  cfpb_building_block_activities_using-student-loan-calculator_worksheet.pdf
- Computers or tablets with Internet access
- The U.S. Department of Education office of Federal Student Aid's Loan Simulator at https://studentaid.gov/loan-simulator/

Exploring key financial concepts

Since student loans are often a part of preparing for your future, it's important to understand how they work. When you take out a loan, you're responsible for paying back the principal plus the interest. The principal is the amount you borrowed. The interest is the fee charged for using someone else's money. Interest is calculated daily, so the quicker you can pay off the loan, the less interest you'll have to pay. Your monthly loan statement shows the

TIP

Because financial aid rules and programs change, students should be encouraged to always look for the most up-to-date information.

monthly payment you're expected to make. But you can always pay more than that. This is called a prepayment. And when you pay more, your principal is reduced faster and you'll end up paying less interest over the life of the loan.

Teaching this activity

Whole-class introduction

- Consider reading the "Exploring key financial concepts" section to students.
- Ask students if they know anyone who is paying off student loans.
- Be sure students understand key vocabulary:
  - **Borrower:** A person or organization that borrows something, especially money from a bank or other financial institution.
  - **Federal student loans:** These loans are funded by the federal government and have terms and conditions that are set by law. Federal loans also include benefits that private student loans don't usually offer. These benefits could include lower interest rates, repayment plans based on income, and possible loan forgiveness for people who choose to work for a certain amount of time in government or for certain not-for-profit organizations or teach in a low-income school.
  - **Financial aid:** Money given in the form of grants, work-study, loans, and scholarships to help pay for post-secondary tuition and fees, as well as related expenses such as room and board, books, supplies, and transportation.
  - **Interest:** A fee charged by a lender, and paid by a borrower, for the use of money.
  - **Interest rate:** A percentage of a sum borrowed that is charged by a lender or merchant for letting you use its money.
  - **Lender:** An organization or person that lends money with the expectation that it will be repaid, generally with interest.
  - **Loan:** Money that needs to be repaid by the borrower, generally with interest. (You'll have to pay interest on student loans.)
  - **Prepayment:** Payment of all or part of a debt before it comes due.

TIP

Visit CFPB's financial education glossary at consumerfinance.gov/financial-education-glossary/.

- **Principal:** In the lending context, principal is the amount of money that you originally received from the lender and agreed to pay back on the loan with interest.
- **Private student loans:** These loans are from private organizations such as banks and credit unions, which set their own terms and conditions. Private loans are generally more expensive than federal loans.
- **Student loan servicer:** This is a company that collects payments on student loans, tracks loans while borrowers are in school, responds to borrowers' questions, and handles other tasks associated with loans.

- Introduce students to the idea that principal, interest rate, and time (length of the loan) affect the total amount they will repay for student loans.
- Explain that they'll explore how paying more than the regular monthly loan payment can reduce the total amount repaid for the loan.

Individual or group work

- Distribute the "Using a student loan calculator" worksheet.
- Students can work individually, in pairs, or in small groups.
- Make sure students review the worksheet before beginning and know how to access the Loan Simulator at https://studentaid.gov/loan-simulator/.
  - Be sure students understand that this calculator focuses on federal student loans.
- Students will determine the average federal loan amount for a four-year public university, the average interest rate, and the monthly payment amount.
  - Students will use the results to answer questions 1 and 2 on the worksheet.
- Next, students will use the Loan Simulator to figure out how paying more than the minimum monthly payment affects the total cost of the loans in the scenario.
  - Students will use the results to answer questions 3 and 4.
  - Question 4 in the "Digging deeper" section asks students to create a graph or chart to show how paying extra on the loans by varying amounts affects the total to be paid on the loans.
- For question 5 in the "Digging deeper" section, students will write down advice they would give to friends who are just beginning to pay off their student loans.

Wrap-up

- When students have finished their worksheets, have them share and discuss their findings.
- Ask for volunteers to share their answers to question 5.

Suggested next steps

Consider searching for other CFPB activities that address the topics of spending, including paying for college, or borrowing, including getting loans. Suggested activities include "Choosing a student loan that's right for you" and "Understanding how much student debt you can afford".

To extend the learning, consider having students explore Finaid.org's loan prepayment calculator at www.finaid.org/calculators/prepayment/.[1] This calculator uses percentages to show how extra payments reduce the amount of interest paid, the number of payments, and the loan term.

Measuring student learning

Students' answers during discussion and on the worksheet can give you a sense of their understanding. As students share their answers to the "Digging deeper" questions during the wrap-up, you might look for the following:

- Students should notice that increasing the monthly loan payment by as little as $30 reduces the total amount to pay because the loans are getting paid off sooner.
- Advice may include a mention that it's good practice to pay more than the minimum monthly payment when possible, once basic emergency savings have been established and other basic needs addressed.

1. The Consumer Financial Protection Bureau does not endorse this third party or guarantee the accuracy of this third-party information.

Answer guide

This answer guide provides possible answers for questions 1–3 on the "Using a student loan calculator" worksheet. **Keep in mind that students' answers may vary, as there may not be only one right answer.** The important thing is for students to have reasonable justification for their answers.

> **NOTE**
>
> Because average loan balances and average interest rates are updated each year, please use the Loan Simulator to check these answers.

1.

$26,946	**3.9%**

2.

$272	**$32,585**	**10**

3.

Extra payment: $0 (Enter the answers from question 2.)	**Extra payment: $30**	**Extra payment: $75**
Monthly payment (basic payment; no prepayment): **$272** Total to be paid: **$32,585**	Monthly payment (basic payment plus prepayment): **$302** Total to be paid: **$31,885** Amount saved: **$700**	Monthly payment (basic payment plus prepayment): **$347** Total to be paid: **$31,112** Amount saved: **$1,473**